CLAIMS

1. Auxiliary power supply equipment for a high voltage installation (1, 7, 8), having a power source (3) at ground potential, a load circuit (4) at high potential, and a transmission link (5, 6) for coupling the power source to the load circuit, characterised in that the power source comprises a high frequency voltage generator (31), the transmission link comprises a first (5) and a second (6) current path, each path being closed by capacitive coupling (51, 61, 61′) to provide insulation between the ground potential and the high potential, and each current path having a reactive compensation means (52, 62, 53, 312, 63, 313, 62′, 53′, 414, 63′, 413) for series compensation of reactive power generated by the capacitive coupling.

2. Auxiliary power supply equipment according to claim 1, characterised in that said reactive compensation means comprises an inductor (52, 62, 62′, 53, 63, 53′, 63′) in series connection with the capacitive coupling.

3. Auxiliary power supply equipment according to any of claims 1-2, characterised in that it comprises means (32, 41, 53, 312, 63, 313, 412′, 53′, 414, 63′, 413) for adaptation of the power source to the load circuit by impedance matching.

4. Auxiliary power supply equipment according to any of claims 1-3, characterised in that the first and the second current path each comprises a series connection of the reactive compensation means and a coupling capacitor (51, 52) coupled to a conductor (2) at the high voltage installation.

5. Auxiliary power supply equipment according to any of claims 1-3, wherein the high voltage installation is a series capacitor equipment (7) mounted on a platform (8) insulated from ground, characterised in that for one (6) of said current paths said capacitive coupling is provided by a stray capacitance (61′) between said platform and ground.

6. Auxiliary power supply equipment according to any of claims 1-5, wherein said voltage generator generates a voltage of a pre-selected frequency, characterised in that in each of said current paths said reactive compensation means are selected to form a series resonant circuit with said capacitive coupling at the pre-selected frequency.

7. Auxiliary power supply equipment according to claim 5, characterised in that one (5) of said capacitive couplings is provided by a coupling capacitor (51) that is coupled to a conductor (LV) at the high voltage installation and coupled to ground potential via said reactive compensation means (53, 312), and in that said voltage generator is capacitively coupled to the junction between the reactive compensation means and the coupling capacitor.

8. Auxiliary power supply equipment according to any of claims 1-4 or to claim 6, when claim 6 depends on any of claims 1-4, characterised in that said capacitive couplings are provided by coupling capacitors (51, 61) coupled to a conductor (2) at the high voltage installation and coupled to ground potential via said reactive compensation means (53, 312, 63, 313), and in that said voltage generator is capacitively coupled to the junctions between the respective reactive compensation means and the coupling capacitors.

9. Auxiliary power supply equipment according to any of claims 1-4 or to claim 6, when claim 6 depends on any of claims 1-4, characterised in that said capacitive couplings are provided by coupling capacitors (51, 61) that are coupled to a conductor (2) at the high voltage installation and coupled to ground potential via the reactive compensation means (52, 62), and in that said voltage generator comprises a ground level transformer (32) and a high frequency DC/AC-converter (31), said ground level transformer having a primary winding (321) coupled to the DC/AC-converter and a secondary winding (322) coupled to said transmission link.

10. Auxiliary power supply equipment according to any of claims 8-9, wherein each of said reactive compensation means comprises an inductor (52, 62, 53, 63, 53′, 63′) with a winding, characterised in that the windings

are magnetically coupled to each other so that said current paths exhibit a low impedance for common mode currents.

11. Auxiliary power supply equipment according to claim 9, characterised in that in that said capacitive couplings are provided by coupling capacitors (51, 61) coupled to a conductor (2) at the high voltage installation via said reactive compensation means (53′, 414′, 63′, 413), and in that said load circuit is capacitively coupled to the junctions between the respective reactive compensation means and the coupling capacitors.

12. Auxiliary power supply equipment according to any of claims 1-11, characterised in that said load circuit (4) comprises a load transformer (41) and an AC/DC-converter (42), said load transformer having a primary winding (412) coupled to said transmission link, and a secondary winding (411) coupled to said AC/DC-converter.

13. Method for supplying auxiliary power to a high voltage installation (1, 7, 8), having the steps of generating power at ground potential, forming a load circuit (4) at high potential, and transmitting the generated power to the load circuit, characterised in that the step of generating power comprises the step of generating a high frequency voltage power, and the step of transmitting the generated power to the load circuit comprises

the step of forming a first (5) and a second (6) current path, each path closed by a capacitive coupling (51, 61, 61′) to provide insulation between the ground potential and the high potential,

the step of transmitting the auxiliary power via said capacitive couplings, and

the step of providing in each current path a reactive compensation means (52, 62, 53, 312, 63, 313, 62′, 53′, 414, 63′, 413) for series compensation of reactive power generated by the capacitive couplings.

14. Method according to claim 13, characterised in that the step of providing in each current path a reactive compensation means comprises the step of providing an inductor (52, 62, 62′, 53, 63, 53′, 63′) in series connection with the capacitive coupling.

15. Method according to any of claims 13-14, wherein the step of generating a high frequency voltage power makes use of a power source (3), c h a r a c t e r i s e d in that it comprises the step of adapting the power source to the load circuit by impedance matching.

16. Method according to any of claims 13-15, c h a r a c t e r i s e d in that the step of transmitting the generated power to the load circuit further comprises the step of providing in each of said first and the second current paths a series connection of the reactive compensation means and a coupling capacitor (51, 52) coupled to a conductor (2) at the high voltage installation.

17. Method according to any of claims 13-15, wherein the high voltage installation is a series capacitor equipment (7) mounted on a platform (8) insulated from ground, c h a r a c t e r i s e d in that the step of transmitting the power via a capacitive coupling comprises the step of using a stray capacitance (61′) between said platform and ground to form said capacitive coupling.

18. Method according to any of claims 13-17, c h a r a c t e r i s e d in that the step of generating a high frequency voltage power comprises the step of pre-selecting a frequency for the voltage, and the step of providing in each current path a reactive compensation means comprises the step of selecting said reactive compensation means to form a series resonant circuit with said capacitive coupling at the pre-selected frequency.

19. Method according to claim 17, c h a r a c t e r i s e d in that the step of transmitting the auxiliary power via a capacitive coupling comprises the step of using a coupling capacitor (51) that is coupled to a conductor (2) at the high voltage installation and coupled to ground potential via said reactive compensation means (53, 312), and in the step of capacitively couple the generated high frequency voltage power to a junction between the reactive compensation means and the coupling capacitor.

20. Method according to any of claims 13-16, or claim 18, when claim 18 depends on any of claims 13-16, c h a r a c t e r i s e d in that the step of transmitting the power via a capacitive coupling comprises the step of using coupling capacitors (51, 61) that are coupled to a conductor (2) at the high

voltage installation and coupled to ground potential via said reactive compensation means, and in the step of capacitively couple the generated high frequency voltage power to a junction between the respective reactive compensation means and the coupling capacitors.

21. Method according to any of claims 13-16, or claim 18, when claim 18 depends on any of claims 13-16, c h a r a c t e r i s e d in that the step of transmitting the power via a capacitive coupling comprises the step of using coupling capacitors (51, 61) that are coupled to a conductor (2) at the high voltage installation and coupled to ground potential via said reactive compensation means, and in the step of inductively couple the generated high frequency voltage power to said current paths.

22. Method according to any of claims 20-21, wherein each of said reactive compensation means comprises an inductor (52, 62, 53, 63, 53', 63') with a winding, c h a r a c t e r i s e d in that it comprises the step of magnetically coupling the windings to each other so that said current paths exhibit a low impedance for common mode currents.

23. Method according to claim 21, c h a r a c t e r i s e d in that the step of transmitting the power via a capacitive coupling comprises the step of using coupling capacitors (51, 61) that are coupled to a conductor (2) at the high voltage installation via said reactive compensation means, and in the step of capacitively couple the transmitted auxiliary power to the load circuit.

24. Method according to any of claims 13-22, c h a r a c t e r i s e d in that the step of transmitting the power via a capacitive coupling comprises the step of using coupling capacitors (51, 61) that are coupled to a conductor (2) at the high voltage installation, and in the step of inductively couple the transmitted auxiliary power to the load circuit.